

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in view of the present amendment and in light of the following discussion, is respectfully requested.

Claims 24-46 are presently active in this case. The present amendment amends Claims 24-43 and 45-46. Support for the present amendment can be found in Figures 1 and 2, in the specification at page 3, lines 14-24 and 29-39, at page 4, lines 1-9 and 11-14, at page 5, lines 17-25 and 27-32, at page 8, lines 9-22 and 24-38, at page 11, lines 21-37, at page 12, lines 1-19 and 25-27, at page 13, lines 1-13 and 20-37, and at page 14, lines 11-22 and 20-37, and in Claims 24-46 as originally filed. Thus, it is respectfully submitted that no new matter is added.

The outstanding Office Action presents the following issues: Claim 43 was objected to; Claims 24-46 were rejected under 35 U.S.C. §112, Second Paragraph; Claims 24-31 and 33 were rejected under 35 U.S.C. §102(b) as anticipated by Woll et al. (U.S. Patent No. 6,280,826, hereinafter Woll); Claims 32, 34-39, and 44-46 were rejected under 35 U.S.C. §103(a) as unpatentable over Woll in view of Demars et al. (U.S. Patent No. 6,138,434, hereinafter Demars); Claim 40 was rejected under 35 U.S.C. §103(a) as unpatentable over Woll in view of Demars and further in view of Kreyenborg et al. (U.S. Patent No. 6,623,203, hereinafter Kreyenborg); Claim 41 was rejected under 35 U.S.C. §103(a) as unpatentable over Woll in view of Demars and further in view of Chae et al. (U.S. Patent No. 6,430,894 hereinafter Chae); and Claims 42 and 43 were rejected under 35 U.S.C. §103(a) as unpatentable over Woll in view of Demars in view of Chae and further in view of Lind (U.S. Patent Publication No. 6,430,894).

OBJECTION TO CLAIM 43

Claim 43 is hereby amended to depend on Claim 42, as suggested at section 1 of the outstanding Office Action.

Accordingly, Applicants respectfully request that the objection to Claim 43 be withdrawn.

REJECTION UNDER 35 U.S.C. §112, SECOND PARAGRAPH

With regard to the rejection of Claims 24-46 under 35 U.S.C. §112, Second Paragraph, as outlined at section 3 of the outstanding Office Action, Applicants respectfully request reconsideration of this rejection and traverse the rejection based on the subsequent discussion.

Claim 24 is amended to correct the noted informalities. Specifically, Claim 24 is amended to particularly point out and distinctly claim that it is the “inside faces of the laminated glazing elements” that “are contiguous and in perpendicular projection to one another.” Therefore, the “edge regions” reference is removed, and the “perpendicular projection” reference is clarified.

Amended Claim 25 corrects the noted informalities. Specifically, Claim 25 is amended to particularly point out and distinctly claim that the “thickness of the overlap region... is equal to the sum of thicknesses of the individual glazing elements extending into the overlap region and a thickness of each intermediate layer.” Thus, the thickness references are clarified and the “where necessary” language is removed.

Claim 28 is amended to correct the noted informality. Specifically, Claim 28 is amended to particularly point out and distinctly claim an embodiment of the assembly device in which “the individual glazing elements which form a projecting rim are joined together

and the individual glazing elements which form a recessed rim are joined together.”

Consequently, the “belongs in common” language is removed.

Amended Claim 31 corrects the noted informalities. Specifically, Claim 31 is amended to particularly point out and distinctly claim that “the edge side of one of the laminated glazing element includes at least one recessed rim situated between at least two projecting rims, and an adjoining edge side of another of the laminated glazing elements includes at least one projecting rim situated between at least two recessed rims.” Further, Claim 27, from which Claim 31 depends, clarifies that a “projecting rim” and a “recessed rim” are the parts that are “formed by one of the individual glazing elements” at an edge side of each of the laminated glazing elements. Therefore, the relationship between the projecting and recessed rims has been clarified.

Claim 37 is amended to correct the noted informalities. Specifically, Claim 37 is amended to particularly point out and distinctly claim that the “centering ring surrounding the sleeve” is “in circumferential alignment with an external diameter of the sleeve and a diameter of the hole in the individual glazing element of the first laminated glazing element.” The claim is also amended to particularly point out and distinctly claim that the “eccentric rings” are “configured to rotate relative to one another” and are “configured to be adjusted in the hole in the individual glazing element of the second of the laminated glazing elements, with one of the eccentric rings in circumferential alignment with the external diameter of the sleeve and another one of the eccentric rings in circumferential alignment with the diameter of the hole in the individual glazing element of the second of the laminated glazing elements.” Thus, the “precise adjustment” language is removed and the “rotate relative to one another” reference has been clarified.

Lastly, amended Claims 39, 42, and 43 no longer contain incorrect antecedent bases. The word “the” is removed before the word “tightening” in amended Claim 39, and correct antecedent basis for “the end washers” has been introduced in amended Claims 39 and 42.

Accordingly, Applicants respectfully request that the rejection of Claims 24-46 under 35 U.S.C. §112, Second Paragraph, be withdrawn. It is believed that all pending claims are definite, however, if the Examiner disagrees with the Applicants’ claim language amendments, the Examiner is invited to telephone the undersigned who will be happy to work with the Examiner in a joint effort to derive mutually acceptable language.

REJECTION UNDER 35 U.S.C. §102(b)

In response to the rejection of Claims 24-31 and 33 under 35 U.S.C. § 102(b), Applicants respectfully request reconsideration of this rejection and traverse the rejection based on the subsequent discussion.

Amended Claim 24, relates to an assembly device for laminated glazing elements. As supported by the original application disclosure in Figs. 1 and 2 and in the corresponding description in the specification, the assembly device comprises at least two laminated glazing elements. The laminated glazing elements each include a plurality of individual glazing elements that are rigid and assembled to one another at a surface by a bonding layer. The laminated glazing elements succeed one another in a direction of extension. The laminated glazing elements partially overlap in an overlap region where inside faces of the laminated glazing elements are contiguous and in perpendicular projection to one another. The laminated glazing elements are assembled to one another in the overlap region so that outside faces of the laminated glazing elements are in axial alignment. Only part of, and at least one of, the individual glazing elements of each of the laminated glazing elements extend into the overlap region.

As explained in Applicants' specification, for example, at page 3, lines 14-24, the assembly device can assemble laminated glazing elements in axial alignment. Thus, the laminated glazing elements of the assembly device are each comprised of individual glazing elements, and the laminated glazing elements overlap in an overlap region where only part of the individual glazing elements of each laminated glazing element extend.

Turning to the applied reference, Woll describes a bulletproof glass window. The Office Action takes the position that the bulletproof glass window of Woll is an assembly device for at least two laminated glazing elements that are rigid and assembled to one another at a surface by bonding layers, which succeed one another in a direction of extension, partially overlapping in contiguous edge regions in perpendicular projection on faces of the glazing elements, and are assembled to one another in this partially overlap region on an edge side, wherein only one portion of the rigid glazing elements, at least one individual glazing element of each laminated glazing element, extends into the overlap region.

However, it is respectfully submitted that Woll does not disclose or suggest an assembly device comprising "*at least two laminated glazing elements...each including a plurality of individual glazing elements,*" with the laminated glazing elements "*assembled to one another,*" as amended Claim 24 defines. Further, Woll does not disclose or suggest that "*laminated glazing elements are assembled to one another in the overlap region so that outside faces of the laminated glazing elements are in axial alignment,*" as recited in amended Claim 24.

Instead, as can be seen in Fig. 1 and described at col. 3, lines 36-39, Woll describes a bulletproof glass window that is a singular "laminated glass," comprised of several glass panes (elements 1, 3, and 5) and a metal armouring (element 6). Accordingly, the metal armouring is not a glazing element. As can be seen at col. 3, lines 55-58, and col. 5, lines 27-38 of Woll, the three glass panes and layers of polyurethane (elements 2 and 4) form a unitary

sandwich in which the single components of the sandwich construction are bonded together. Consequently, as Woll only describes three glass panes, Woll does not disclose or suggest an assembly device in which “*at least two laminated glazing elements...each including a plurality of individual glazing elements,*” are “*assembled to one another,*” as amended Claim 24 defines.

Additionally, Fig. 1 of Woll suggests that the polyurethane layers of the single laminated glass window primarily bond the glass panes together, and therefore, the individual glass panes are assembled along their entire faces. Accordingly, Woll does not disclose or suggest *an overlap region* where assembly of at least two laminated glazing elements occurs. This is further supported because col. 4, lines 33-36, and col. 5, lines 18-22 of Woll describe that the sealant (element 7) in the hollow spaces (element 11) in the edge area of the glass panes merely functions to fill or seal these hollow spaces and to counterbalance movements between components. Also, Fig. 1 of Woll depicts that the outer face of the laminated glass along glass pane element 5 is not *in axial alignment* with another laminated glass element, as the outer face of this glass pane abruptly ends at the sealant. Thus, Woll does not disclose or suggest that “laminated glazing elements are *assembled to one another in the overlap region so that outside faces of the laminated glazing elements are in axial alignment,*” as recited in amended Claim 24.

For these reasons, the cited reference fails to disclose or suggest every feature recited in Applicants’ amended Claim 24, so that amended Claim 24 is patentably distinct over Woll. Accordingly, Applicants respectfully request that the rejection of Claim 24, and of Claims 25-31 and 33, which depend thereon, as anticipated by Woll be withdrawn.

REJECTION UNDER 35 U.S.C. §103(a)

With respect to the rejection of Claims 32, 34-39, and 44-46 under 35 U.S.C. §103(a) as unpatentable over Woll in view of Demars, the Office Action asserts that Woll and Demars suggest all of the claimed features. Applicants respectfully disagree and request reconsideration of this rejection and traverse the rejection based on the subsequent discussion.

Initially, it is noted that Claims 32, 34-39, and 44-46 depend on Claim 24. Accordingly, in addition to the deficiencies of Woll with respect to independent Claim 24 as articulated above, it is respectfully submitted that Demars does not make up for the deficiencies of Woll, nor does the Office Action assert as such. Moreover, Demars is further deficient with respect to the claimed invention.

Demars describes a glazed element having a high insulating ability. In the glazed element, Demars describes a fastening element (element 12) clamped to glass sheets (elements 4 and 5), which is located in a hole (element 9) in the glazed element. The hole is made up of holes through both glass sheets, and these holes are centered with respect to one another. Demars also describes a bolt (element 13), a locking/clamping element (element 14) clamped to the bolt, and washers (elements 15 and 16).

It is respectfully submitted, however, that Demars contains at least the relevant deficiencies discussed below and thus does not cure the deficiencies of Woll. Demars does not disclose or suggest a “means for centering a longitudinal axis of the mechanical retention member passing through the laminated glazing elements along an axis of the through-hole,” as recited in amended Claim 35. Demars also does not disclose or suggest a “means for compensating for off-center positioning of the axis of a hole in an individual glazing element of a second of the laminated glazing elements outside the axis of the hole in the individual glazing element of the first of the laminated glazing elements,” as claimed in amended Claim

36. Demars lacks the features recited in amended Claim 37 of “the centering ring *in circumferential alignment with an external diameter of the sleeve and a diameter of the hole* in the individual glazing element of the first of the laminated glazing elements,” and “*eccentric rings configured to rotate relative to one another and configured to be adjusted in the hole* in the individual glazing element of the second of the laminated glazing elements.” Furthermore, the end washers of Demars do not “*mask the through-hole from outside of the through-hole,*” as recited in amended Claims 38, 39, and 42. Lastly, Demars does not disclose or suggest that the “*the end washers are tightened to the sleeve,*” as defined in amended Claim 39.

Instead, col. 4, lines 65-68, and col. 5, line 1 of Demars only describes that the holes in glass sheets are centered, but the centering is not *along an axis* of the hole, as defined in amended Claim 35. As a result, there is also no disclosure or suggestion in Demars of a “*means for compensating for off-center positioning of the axis of a hole in an individual glazing element of a second of the laminated glazing elements outside the axis of the hole in the individual glazing element of the first of the laminated glazing elements,*” as recited in amended Claim 36. As shown in Fig. 2a, Demars also does not disclose or suggest a centering ring, as defined in amended Claim 37. Fig. 2a of Demars only depicts that the ring surrounding the threaded member is part of the locking/clamping element (element 14), and that it is not in circumferential alignment with the bolt (element 13) and the hole (element 9). Additionally, as shown in Fig. 2a, Demars does not disclose or suggest two eccentric rings, because the singular locking/clamping element is not even in the hole, as the eccentric rings are defined in amended Claim 37. The washers (elements 15 and 16) of Demars in Figs. 2a through 3c do not “*mask the through-hole from outside of the through-hole,*” as recited in amended Claim 38, because the washers are shown hidden inside of the bolt and the locking/clamping element, from the outside. Finally, because the washers of Demars are

inside of the bolt and the locking/clamping element, the bolt and the locking/clamping element are tightened to the washers, and not the other way around, as is claimed in amended Claim 39.

Based on the deficiencies of Woll and Demars, it is respectfully submitted that the combination of Woll and Demars does not disclose or suggest every feature recited in amended Claims 32, 34-39, and in Claims 44-46. Therefore, Applicants respectfully request that the rejection of Claims 32, 34-39, and 44-46 as unpatentable over Woll in view of Demars be withdrawn.

With respect to the rejection of Claim 40 under 35 U.S.C. §103(a) as unpatentable over Woll, Demars, and Kreyenborg, Applicants respectfully submit that amended Claim 40, which depends on Claim 24, patentably defines over the applied art. In addition to the deficiencies of Woll and Demars, articulated above, Kreyenborg also contains a relevant deficiency, and does not make up for the deficiencies in the other applied art.

Kreyenborg describes a clamp fitting for fastening glass plates. Within the clamp fitting, a shim washer (element 19) is present.

It is respectfully submitted, however, that the shim washer of Kreyenborg is distinct from the shims of amended Claim 40. Amended Claim 40 recites that the “shims are positioned *between the end washers and the outer faces of the laminated glazing elements.*” It is clear from Fig. 7 and col. 5, lines 40-50 of Kreyenborg, that the shim washer is between the screw head (element 31), and the spacer bush (element 9) and threaded sleeve (element 32). From this configuration, Woll, Demars, and Kreyenborg does not disclose or suggest the feature of amended Claim 40 that the “shims are positioned *between the end washers and the outer faces of the laminated glazing elements.*” Applicants respectfully request that the rejection of Claim 40 as unpatentable over Woll in view of Demars and in further view of Kreyenborg be withdrawn.

With respect to the rejection of Claim 41 under 35 U.S.C. §103(a) as unpatentable over Woll, Demars, and Chae, Applicants respectfully submit that amended Claim 41 patentably defines over the applied art. In addition to the deficiencies of Woll and Demars, articulated above, Chae also contains a relevant deficiency, and does not make up for the deficiencies in the other applied art.

Chae describes a sealed double glazing unit. Within the double glazing unit, sealing spaces (elements 14 and 21) are filled with sealing compound.

It is respectfully submitted, however, that the spaces filled with sealing compound in Chae are distinct from the hollow spaces filled with mass filler recited in amended Claim 41. Amended Claim 41 recites that the “remaining hollow spaces *in the through-hole* are filled with a mass of filler.” It is apparent from Figs. 2 and 3 and col. 5, lines 10-15 of Chae, that the sealing spaces (elements 14 and 21) are outside of the holes (elements 101’ and 102’) in the outer and inner glazing panes (elements 101 and 102, respectively). Based on this arrangement, the cited combination of Woll, Demars, and Chae does not disclose or suggest the feature of amended Claim 41 that the “remaining hollow spaces *in the through-hole* are filled with a mass of filler.” Applicants respectfully request that the rejection of Claim 41 as unpatentable over Woll in view of Demars and in further view of Chae be withdrawn.

With respect to the rejection of Claims 42 and 43 under 35 U.S.C. §103(a) as unpatentable over Woll, Demars, Chae, and Lind, Applicants respectfully submit that Claim 42 and amended Claim 43 patentably define over the applied art. In addition to the deficiencies of Woll, Demars, and Chae, articulated above, Lind also contains a relevant deficiency, and does not make up for the deficiencies in the other applied art.

Lind describes a fixing element for laminated glass. The fixing element has a washer (element 18) with an injection opening (element 22) through which sealing compound

(element 36) can enter the gap between the threaded shank (element 12) and the hole in the outer laminated glass layer (element 24).

It is respectfully submitted, however, that Lind does not disclose or suggest a washer with “orifices *for the discharge of air displaced by the inserted mass of filler*,” as amended Claim 43 defines. Paragraphs [0016] and [0017] of Lind only suggest that the injection opening (element 22) is for inserting sealing compound (element 36). Because Lind does not suggest that air can be removed from the injection opening, the cited combination of Woll, Demars, Chae, and Lind does not disclose or suggest all the features of amended Claim 43. Applicants respectfully request that the rejection of Claims 42 and 43 as unpatentable over Woll in view of Demars in view of Chae and in further view of Lind be withdrawn.

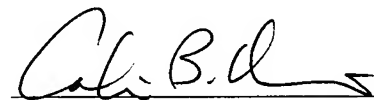
CONCLUSION

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. A Notice of Allowance is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants’ undersigned representative at the below listed telephone number.

Respectfully submitted,

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